information demonstrating the cubes can be canted face-more-parallel (see p. 13 lines 1-4), and size information demonstrating the cubes can be microcubes (p. 13 lines 20-22 and p. 7 lines 2-4). *Species are always the specifically different embodiments. See* MPEP 806.04(e). And in order to be restricted to different species, claims must be *mutually exclusive*. *See* MPEP 806.04(f). Yet, as demonstrated above, the features called out in the Office Action are not mutually exclusive, but rather are all combinable in a single embodiment. Hence the election requirement is improper and should be withdrawn.

Traverse is also improper since the U.S. PTO has already determined that the features are properly combinable in a single application, as demonstrated by issuing the '214 Heenan et al. patent with both group (2) and group (3) claims together. For the Examiner to now require the present Applicants to prosecute multiple applications where Heenan et al. prosecuted only one is patently inconsistent and unfair. The election requirement should be withdrawn.

Remarks

Entry of the present amendment prior to substantive examination is respectfully requested.

Support for the new claims can be found in the specification as shown above. (In the case of face-more-parallel canting, one of ordinary skill would readily understand from basic geometry that an angle θ_1 (see FIG. 4) of greater than 35.26° will produce face-more-parallel canted cubes.) No new matter has been added. The new claims 10-12 and 14-22 also correspond to the election herein of group (1) as defined in the Office Action, because they have the required property by virtue of depending from claims 1-4. Further, new claim 13 corresponds to the election despite the fact that it depends from any of claims 5-9. Note that these new claims 10-22 are also linking claims to the other defined groups.

Conclusion

Applicants have elected group (1) with traverse, and have added claims, for the reasons given. Claims 1-22 are now pending, and claims 1-4 and 10-22 correspond to the election.

Beyond the fees authorized by the accompanying fee calculation sheet, and the fee for a 2-month extension of time under Rule 136, no other fees are believed to be due. However, if this

belief is in error, please charge any additional fees to Deposit Account No. 13-3723. The Examiner is invited to contact the undersigned at the indicated telephone number with questions or any other matters that can be resolved with a simple teleconference.

Respectfully submitted,

Dec. 16, 2002
Date

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EXHIBIT A

Paragraph Beginning at Page 24, Line 30 – Marked Up To Show Changes

In the manufacture of retroreflective articles such as retroreflective sheeting, the structured surface of the plurality of laminae is used as a master mold which can be replicated using electroforming techniques or other conventional replicating technology. The plurality of laminae can include substantially identical cube corner elements or may include cube corner elements of varying sizes, geometries, or orientations. The structured surface of the replica, referred to in the art as a 'stamper', contains a negative image of the cube corner elements. This replica can be used as a mold for forming a retroreflective article. More commonly, however, a large number of positive or negative replicas are assembled to form a mold large enough to be useful in forming retroreflective sheeting. Retroreflective sheeting can then be manufactured as an integral material, e.g. by embossing a preformed sheet with an array of cube corner elements as described above or by casting a fluid material into a mold. See, JP 8-309851 and U.S. Patent No. 4,601,861 (Pricone). Alternatively, the retroreflective sheeting can be manufactured as a layered product by casting the cube corner elements against a preformed film as taught in PCT application No. WO 95/11464 and U.S. Pat. No. [3,648,348] 3,684,348 or by laminating a preformed film to preformed cube corner elements. By way of example, such sheeting can be made using a nickel mold formed by electrolytic deposition of nickel onto a master mold. The electroformed mold can be used as a stamper to emboss the pattern of the mold onto a polycarbonate film approximately 500 μm thick having an index of refraction of about 1.59. The mold can be used in a press with the pressing performed at a temperature of approximately 175° to about 200° C.

EXHIBIT B

Paragraph Beginning on Page 24, Line 30 – Clean Version

In the manufacture of retroreflective articles such as retroreflective sheeting, the structured surface of the plurality of laminae is used as a master mold which can be replicated using electroforming techniques or other conventional replicating technology. The plurality of laminae can include substantially identical cube corner elements or may include cube corner elements of varying sizes, geometries, or orientations. The structured surface of the replica, referred to in the art as a 'stamper', contains a negative image of the cube corner elements. This replica can be used as a mold for forming a retroreflective article. More commonly, however, a large number of positive or negative replicas are assembled to form a mold large enough to be useful in forming retroreflective sheeting. Retroreflective sheeting can then be manufactured as an integral material, e.g. by embossing a preformed sheet with an array of cube corner elements as described above or by casting a fluid material into a mold. See, JP 8-309851 and U.S. Patent No. 4,601,861 (Pricone). Alternatively, the retroreflective sheeting can be manufactured as a layered product by casting the cube corner elements against a preformed film as taught in PCT application No. WO 95/11464 and U.S. Pat. No. 3,684,348 or by laminating a preformed film to preformed cube corner elements. By way of example, such sheeting can be made using a nickel mold formed by electrolytic deposition of nickel onto a master mold. The electroformed mold can be used as a stamper to emboss the pattern of the mold onto a polycarbonate film approximately 500 μm thick having an index of refraction of about 1.59. The mold can be used in a press with the pressing performed at a temperature of approximately 175° to about 200° C.

EXHIBIT C

All Pending Claims, Including Newly Added Claims 10-22

1. An article comprising an array of nonrulable cube corner elements, the article comprising a plurality of laminae, each such lamina having opposed parallel major surfaces and a working surface connecting the major surfaces, the array having rows of rectangular cube corner elements formed along the working surfaces of the laminae.

2. An article comprising a plurality of laminae, each lamina having opposed parallel major surfaces and a working surface connecting the major surfaces, the working surface of each lamina having an inclined surface extending along the working surface and a set of parallel grooves defining groove surfaces orthogonal to each other and to the inclined surface so as to form a row of rectangular cube corner elements.

3. A lamina having opposed parallel major surfaces and a working surface therebetween, the working surface having an inclined surface extending therealong and a set of parallel grooves defining groove surfaces orthogonal to each other and to the inclined surface so as to form a row of rectangular cube corner elements.

4. A plurality of laminae as set forth in claim 3, the plurality of laminae defining in the working surfaces thereof a nonrulable array of cube corner elements.

5. An article comprising an array of microcubes, such that for every plane in space there are two adjacent microcubes for which at the place of adjacency none of the face edges is parallel to that plane, and in which at least one microcube of said array is rectangular, said at least one microcube of said array being canted face-more-parallel.

6. The article of claim 5 in which at least one microcube of said array has a plane of symmetry in which lies the cube axis of said microcube, thereby increasing the entrance angularity of said array in a plane perpendicular to said plane of symmetry.

7. An article comprising an array of microcubes, such that for every plane in space there are two adjacent microcubes for which at the place of adjacency none of the face edges is parallel to that plane, in which at least one of said microcube shape is rectangular, and in which at least one face of said rectangular microcube is pentagonal.

8. An article comprising an array of microcubes in which every three by three subarray of microcubes is nonrulable, and in which at least one microcube in a said three by three subarray of microcubes is rectangular, said at least one microcube being canted face-more-parallel.

9. The article of claim 8 in which at least one microcube of said array has a plane of symmetry in which lies the cube axis with said microcube, thereby increasing the entrance angularity of said array in a plane perpendicular to said plane of symmetry.

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10. (New) The article of any of claims 1-4, wherein the rectangular cube corner elements are canted face-more-parallel.

11. (New) The article of any of claims 1-4, wherein the rectangular cube corner elements each comprise a pentagonal face.

12. (New) The article of any of claims 1-4, wherein the rectangular cube corner elements are microcubes.

13. (New) The article of any of claims 5-9, wherein the article comprises a plurality of laminae and wherein the microcubes in the array are formed in rows of rectangular cube corner elements on working surfaces of the laminae.

14. (New) The article of claim 1, wherein the array of nonrulable cube corner elements comprises an array of microcubes.

15. (New) The article of claim 14, wherein for every plane in space there are two adjacent microcubes for which at the place of adjacency none of the face edges is parallel to that plane.

16. (New) The article of claim 15, wherein at least one microcube of said array of microcubes is rectangular and canted face-more-parallel.

17. (New) The article of claim 16, in which at least one microcube of said array of microcubes has a plane of symmetry in which lies the cube axis of said microcube, thereby increasing the entrance angularity of said array of microcubes in a plane perpendicular to said plane of symmetry.

18. (New) The article of claim 15, wherein at least one of said microcube shape is rectangular, and in which at least one face of said rectangular microcube is pentagonal.

19. (New) The article of claim 14, wherein every three by three subarray of microcubes is nonrulable.

20. (New) The article of claim 19, wherein at least one microcube in a said three by three subarray of microcubes is rectangular.

21. (New) The article of claim 20, wherein said at least one microcube is canted face-more-parallel.

22. (New) The article of claim 21, wherein at least one microcube of said array has a plane of symmetry in which lies the cube axis with said microcube, thereby increasing the entrance angularity of said array in a plane perpendicular to said plane of symmetry.